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10/551,651

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EXAMINER

SUAREZ, ERNESTO A

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/551,651	Applicant(s) SHINKAWA ET AL.	
	Examiner ERNESTO SUAREZ	Art Unit 3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-7,12 and 16-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-7,12,16-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4, recites " a drive mechanism configured to move the side wall member from the upright state to the laid flat state prior to a discharge operation of the recording medium only when a discharge direction length dimension of the recording medium to undergo image formation in the image-formation portion is longer than a length of the recording medium placement surface," the claim lacks sufficient structure to support the function of the drive mechanism, it is unclear how discharge direction length dimension of the recording medium to undergo image formation is detected and further what uses and makes the decision that the length is longer than the recording medium placement surface (e.g. a microcontroller?). Further the following limitation in the claim recites "the drive mechanism is further configured to move the side wall member from the laid flat state to the upright state following a removal of the recording medium placed on the recording medium placement surface in the laid flat state of the side wall member," it appears the claim limitation also lacks sufficient structure to support how the drive mechanism detects the "removal of the recording medium," and further, how is the drive

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mechanism configured to move from the laid flat state to the upright state in other words what makes the decision or commands the drive mechanism to move (e.g. a microcontroller?).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, 7, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto (JP409194107) in view of Norris (US Patent No. 4,847,632).

Regarding claim 1, Hashimoto discloses a recording medium discharge mechanism (7) positioned between an original capturing portion arranged in a device upper portion and a feeding portion arranged in a device lower portion of an image forming apparatus (Fig. 3), comprising:

A recording medium placement surface (11, 17) being a bottom surface of a discharge space (fig. 2), the discharge space having an open portion laterally to a downstream side in a recording medium discharge direction and receiving

the recording medium (P) that has undergone image formation in an image-forming portion of the image forming apparatus,

Wherein a discharge direction length of the recording medium placement surface is shorter than a length of a paper cassette (4,5) of the feeding portion arranged to hold one or more types of recording media used in the image forming apparatus; (Fig. 3) and

A biasing member; (Fig. 10, [0033]-[0034]) and

A side wall member (12) being provided at the downstream end portion in the recording medium discharge direction of the recording medium placement surface, (Fig. 2)

Wherein the side wall member is arranged to be capable of moving between an upright state that closes the open portion of the downstream side in the recording medium discharge direction in the discharge space and a laid flat state in which the placement surface for placing a discharged recording medium is extended toward the downstream side in the recording medium discharge direction, (Fig. 2) and

Hashimoto does not expressly disclose wherein the side wall member is arranged to receive a biasing force to the upright state by the biasing member and is configured to move from the upright state to the laid flat state against the biasing force by the biasing member only upon receiving an external force from the recording medium having a discharge speed greater than a predetermined

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speed or having a hardness greater than a predetermined hardness when the recording medium has been discharged to the discharge space in the upright state of the side wall member that closes the open portion.

Norris teaches a side wall member (60, 78) arranged to receive a biasing force to an upright state (Fig. 3) by a biasing member (64) and configured to move from the upright state to a laid flat state (Fig. 4) against the biasing force by a biasing member only upon receiving an external force from a recording medium (18) having a discharge speed greater than a predetermined speed or having a hardness greater than a predetermined hardness (C5/L2-14) when the recording medium has been discharged in the upright state of the side wall member that closes an open portion (figs. 3-4).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Hashimoto's disclosed side wall member to be configured to move from the upright state to the laid flat state against the biasing force by a biasing member only upon receiving an external force from a recording medium having a discharge speed greater than a predetermined speed or having a hardness greater than a predetermined hardness when the recording medium has been discharged in the upright state of the side wall member that closes the open portion, as taught by Norris for the purpose of reducing paper jamming in the discharge mechanism caused by long recording media and eliminating

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constant user adjustment of the side wall member whenever a feeding and discharging operation is to be performed.

Regarding claim 5, Hashimoto as modified above, satisfies wherein when the discharge direction length of the recording medium placement surface of the discharge space is given as $L1$, the length of a paper cassette of the feeding portion arranged to hold one or more types of recording media used in the image forming apparatus is given as $L2$ and an extension length dimension toward a downstream side in the recording medium discharge direction when the side wall member has been put into the laid flat state is given as $L3$, $L3 \leq L2 - L1$.

(Hashimoto, Fig. 3)

Regarding claim 7, Hashimoto as modified above discloses an original capturing portion (Hashimoto, 2) arranged at an upper portion of the recording medium discharge mechanism and a feeding portion (Hashimoto, 4, 5) arranged at lower portion of the recording medium discharge mechanism.

Regarding claim 17, Hashimoto as modified above discloses wherein the discharge space is formed interior to an image forming apparatus formed by the original capturing portion and the feeding portion. (Hashimoto, Fig. 3)

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Regarding claim 19, Hashimoto as modified above discloses wherein the discharge space is separate from an original discharge space of the original capturing portion in which originally scanned documents are discharged after being scanned. (Hashimoto, Fig. 3)

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto in view of Norris and further in view of Ishikawa et al. (US Patent No. 4,838,534).

Hashimoto as modified above does not expressly disclose wherein the side wall member is structured using a transparent member or a semitransparent member.

Ishikawa et al. discloses wherein a side wall member (85) is structured using a transparent member or a semitransparent member such that the stack of paper on the table can be observed when it is closed. (C15/L16-19)

At the time of the invention it would have been obvious to one of ordinary skill in the art to further modify Hashimoto's disclosed side wall member to be structured using a transparent member or a semitransparent member as taught by Ishikawa et al. such that the stack of paper can be observed when the side wall member is in an upright closed position.

Claims 4, 18, 20, 21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto in view of Yamamoto et al. (JP2003002508).

Regarding claim 4, Hashimoto discloses a recording medium discharge mechanism (7) positioned between an original capturing portion arranged in a device upper portion and a feeding portion arranged in a device lower portion of an image forming apparatus (Fig. 3), comprising:

A recording medium placement surface (11, 17) being a bottom surface of a discharge space (fig. 2), the discharge space having an open portion laterally to a downstream side in a recording medium discharge direction and receiving the recording medium (P) that has undergone image formation in an image-forming portion of the image forming apparatus,

Wherein a discharge direction length of the recording medium placement surface is shorter than a length of a paper cassette (4,5) of the feeding portion arranged to hold one or more types of recording media used in the image forming apparatus; (Fig. 3) and

A side wall member (12) being provided at the downstream end portion in the recording medium discharge direction of the recording medium placement surface, (Fig. 2)

Wherein the side wall member is arranged to be capable of moving between an upright state that closes the open portion of the downstream side in the recording medium discharge direction in the discharge space and a laid flat state in which the placement surface for placing a discharged recording medium

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is extended toward the downstream side in the recording medium discharge direction. (Fig. 2)

Hashimoto does not expressly disclose a drive mechanism configured to move the side wall member from the upright state to the laid flat state prior to a discharge operation of the recording medium only when a discharge direction length dimension of the recording medium to undergo image formation in the image-forming portion is longer than a length of the recording medium placement surface, or wherein the drive mechanism is further configured to move the side wall member from the laid flat state to the upright state following a removal of the recording medium placed on the recording medium placement surface in the laid flat state of the side wall member.

Yamamoto et al. teaches a drive mechanism configured to move a side wall member (10) from an upright state (contracted state, fig. 1) to a laid flat state (extended state) prior to a discharge operation of the recording medium only when a discharge direction length dimension of the recording medium to undergo image formation in the image-forming portion is longer than a length of the recording medium placement surface ([0018]-[0019]) and wherein the drive mechanism is configured to move the side wall member from the laid flat state to the upright state following a removal of the recording medium placed on the

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recording medium placement surface in the laid flat state of the side wall member. ([0021]-[0023]) for the purpose of eliminating long pieces of paper slipping down and off the discharge tray and further properly discharging the long paper without user intervention. (Abstract, [0009]-[0011])

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Hashimoto's disclosed discharge mechanism and side wall member with a drive mechanism configured to move the side wall member from the upright state to the laid flat state prior to a discharge operation of the recording medium only when a discharge direction length dimension of the recording medium to undergo image formation in the image-forming portion is longer than a length of the recording medium placement surface, and wherein the drive mechanism is further configured to move the side wall member from the laid flat state to the upright state following a removal of the recording medium placed on the recording medium placement surface in the laid flat state of the side wall member, as taught by Yamamoto et al. for the purpose of properly discharging long paper onto an auxiliary tray without the need of user intervention.

Regarding claim 18, Hashimoto as modified above discloses wherein the discharge space is formed interior to an image forming apparatus formed by the original capturing portion and the feeding portion. (Hashimoto, Fig. 3)

Regarding claim 20, Hashimoto as modified above discloses wherein the discharge space is separate from an original discharge space of the original capturing portion in which originally scanned documents are discharged after being scanned. (Hashimoto, Fig. 3)

Regarding claim 21, Hashimoto as modified above, satisfies wherein when the discharge direction length of the recording medium placement surface of the discharge space is given as $L1$, the length of a paper cassette of the feeding portion arranged to hold one or more types of recording media used in the image forming apparatus is given as $L2$ and an extension length dimension toward a downstream side in the recording medium discharge direction when the side wall member has been put into the laid flat state is given as $L3$, $L3 \leq L2 - L1$. (Hashimoto, Fig. 3)

Regarding claim 23, Hashimoto as modified above discloses an original capturing portion (Hashimoto, 2) arranged at an upper portion of the recording medium discharge mechanism and a feeding portion (Hashimoto, 4, 5) arranged at lower portion of the recording medium discharge mechanism.

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Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto in view of Yamamoto et al, and further in view of Cho (US Patent No. 5,974,283).

Regarding claim 12, Hashimoto as modified above does not expressly disclose wherein the drive mechanism comprises a rod attached to the side wall member; or a solenoid attached to the rod arranged to move the rod.

Cho teaches a drive mechanism with a rod attached to a side wall member (30) and a solenoid (13) attached to the rod and arranged to move the rod. (Figs. 2-3)

At the time of the invention it would have been obvious to one of ordinary skill in the art to provide Hashimoto as modified by Yamamoto et al, drive mechanism with a rod attached to the side wall member and a solenoid attached to the rod and arranged to move the rod, as taught by Cho for the purpose of having a fixed movement interval and reducing the number of parts in the moving mechanism.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto in view of Yamamoto et al Nose et al. (US Patent No. 6,522,860)

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Hashimoto as modified by Yamamoto et al. above discloses wherein a sensor switch (X, Yamamoto) is provided on a recording medium carry path for identifying a length dimension in the discharge direction of the recording medium to undergo image formation in the image-forming portion. Hashimoto as modified by Yamamoto does not expressly disclose wherein the sensor is optical. Nose et al. teaches optical sensors (35, 36) provided on a recording medium paper path to detect the passing period of the document and issue a control signal to the controller. (C6/L21-26)

At the time of the invention it would have been obvious to one of ordinary skill in the art to replace Hashimoto as modified by Yamamoto, disclosed sensor switch with an optical sensor for the purpose of eliminating mechanical wear of the sensor therefore increasing the lifetime of the sensor control system while still maintaining sheet detection accuracy.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto in view of Yamamoto et al. and further in view of Ishikawa et al. (US Patent No. 4,838,534).

Hashimoto as modified above does not expressly disclose wherein the side wall member is structured using a transparent member or a semitransparent member.

Ishikawa et al. discloses wherein a side wall member (85) is structured using a transparent member or a semitransparent member such that the stack of paper on the table can be observed when it is closed. (C15/L16-19)

At the time of the invention it would have been obvious to one of ordinary skill in the art to further modify Hashimoto's disclosed side wall member to be structured using a transparent member or a semitransparent member as taught by Ishikawa et al. such that the stack of paper can be observed when the side wall member is in an upright closed position.

Response to Arguments

Applicant's arguments with respect to claims 1, 4-7, 12, and 16-23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERNESTO SUAREZ whose telephone number is (571) 270-5565. The examiner can normally be reached on Mon-Thurs, 10-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on (571)272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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